

Claims

1. A helical screw rotor compressor comprising
a rotor housing (103, 104, 105) that includes a first end wall (103) and a second end
wall (104), wherein said walls (103, 104) are parallel with one another and connected by a
5 barrel wall (105), wherein said barrel wall has internally the shape of two parallel and mu-
tually intersecting cylinders, and wherein the rotor housing (103, 104, 105) further includes
an inlet port (108) at a first end and an outlet port at a second end,

two rotors (101, 102) which co-act with each other and also with the rotor housing
(103, 104, 105) and each of which includes a respective shaft (21; 26) mounted in end
10 walls (103, 104) of the compressor housing, and a respective rotor body (22; 23) surround-
ing a respective shaft (21; 26), said bodies having parallel end surfaces (4, 3) between the
end walls (103, 104) of the rotor housing, wherein the rotor body (22, 23) includes mutu-
ally separated helical lobes (106, 107) that have a crown (5; 15 respectively), a first or
leading flank surface (1) on a first side of the crown (5) and a second or trailing flank sur-
15 face (2) on a second side of the crown (5), characterised in that the second or trailing
flanks (2) of said lobes (106, 107) are bevelled or chamfered adjacent the second end sur-
face (3) at said outlet opening.

2. A helical screw rotor compressor according to Claim 1, characterised in that the
rotor body (22, 23) consists of a polymeric material.

20 3. A helical screw rotor compressor according to Claim 2, characterised in that the
rotor body (22, 23) consists of a thermoplastic resin.

4. A helical screw rotor compressor according to Claim 2, characterised in that the
rotor body (22, 23) consists of a thermosetting resin.

5. A helical screw rotor compressor according to Claim 1, characterised in that the
25 bevel or chamfer functions to reduce the width of the lobe (106, 107) at said end surface by
at most 3 mm.

6. A helical screw rotor compressor according to Claim 1, characterised in that the
bevel or chamfer functions to reduce the width of the lobe (106, 107) at said end surface by
0.5 mm at the lowest.

30 7. A helical screw rotor compressor according to Claim 1, characterised in that the
bevel or chamfer is perpendicular to the end surface (3, 4).

8. A helical screw rotor compressor according to Claim 1, characterised in that the
rotor shaft (21, 26) is made of steel.